



003300-685.ST25

SEQUENCE LISTING

RECEIVED
JAN 02 2001
TECH CENTER 1600/2900

<110> Lundgren-Akerlund, Evy
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Leu Pro Leu Val Phe Leu Thr Gly Leu Cys Ser Pro Phe Asn Leu Asp
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gaa cat cac cca cgc cta ttc cca ggg cca cca gaa gct gaa ttt gga 147
Glu His His Pro Arg Leu Phe Pro Gly Pro Pro Glu Ala Glu Phe Gly
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Tyr Ser Val Leu Gln His Val Gly Gly Gly Gln Arg Trp Met Leu Val
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ggc gcc ccc tgg gat ggg cct tca ggc gac cgg agg ggg gac gtt tat 243
Gly Ala Pro Trp Asp Gly Pro Ser Gly Asp Arg Arg Gly Asp Val Tyr
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Arg Cys Pro Val Gly Gly Ala His Asn Ala Pro Cys Ala Lys Gly His

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| | 95 100 105 | | | |
| cac ctg ggg atg tct ctg tta gag aca gat ggt gat ggg gga ttc atg | His Leu Gly Met Ser Leu Leu Glu Thr Asp Gly Asp Gly Gly Phe Met | 387 | | |
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| gtg gat gca cta gga gat cgg att ttt ggc ctt gaa ggg tcc cat gca | 1107 |
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| His Ala Ala Tyr Leu Gly Tyr Ser Val Ser Ser Met Leu Leu Arg Gly | |
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| Gly Arg Arg Leu Phe Leu Ser Gly Ala Pro Arg Phe Arg His Arg Gly | |
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| Lys Val Ile Ala Phe Gln Leu Lys Lys Asp Gly Ala Val Arg Val Ala | |
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| Cys Pro Leu Asp Thr Asp Arg Asp Gly Thr Thr Asp Val Leu Leu Val | |
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| 525 530 535 | |

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| gtg ggg aat gtc act tgt gag cag cta cac ttc cat gtg ctg gat aca Val Gly Asn Val Thr Cys Glu Gln Leu His Phe His Val Leu Asp Thr 735 740 745 | 2259 |
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| Asn | Thr | Thr | Lys | Pro | Gly | Pro | Val | Leu | Asn | Glu | Gly | Ser | Pro | Thr | Ser | | |
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| Ile | Gln | Lys | Leu | Val | Pro | Phe | Ser | Lys | Asp | Cys | Gly | Pro | Asp | Asn | Glu | | |
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| Cys | Val | Thr | Asp | Leu | Val | Leu | Gln | Val | Asn | Met | Asp | Ile | Arg | Gly | Ser | | |
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| agg | aag | gcc | cca | ttt | gtg | gtt | cga | ggg | ggc | cgg | cgg | aaa | gtg | ctg | gta | 2499 | |
| Arg | Lys | Ala | Pro | Phe | Val | Val | Arg | Gly | Gly | Arg | Arg | Lys | Val | Leu | Val | | |
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| Ser | Thr | Thr | Leu | Glu | Asn | Arg | Lys | Glu | Asn | Ala | Tyr | Asn | Thr | Ser | Leu | | |
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| Val | Phe | Gly | Lys | Leu | Thr | Ala | Ser | Ser | Asp | Ser | Leu | Glu | Arg | Asn | Gly | | |
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| Thr | Leu | Gln | Glu | Asn | Thr | Ala | Gln | Thr | Ser | Ala | Tyr | Ile | Gln | Tyr | Glu | | |
| | | 925 | | | | | 930 | | | | | 935 | | | | | |
| ccc | cac | ctc | ctg | ttc | tct | agt | gag | tct | acc | ctg | cac | cgc | tat | gag | gtt | 2883 | |
| Pro | His | Leu | Leu | Phe | Ser | Ser | Glu | Ser | Thr | Leu | His | Arg | Tyr | Glu | Val | | |
| | 940 | | | | | 945 | | | | | 950 | | | | | | |
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| His | Pro | Tyr | Gly | Thr | Leu | Pro | Val | Gly | Pro | Gly | Pro | Glu | Phe | Lys | Thr | | |
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| Thr | Leu | Arg | Val | Gln | Asn | Leu | Gly | Cys | Tyr | Val | Val | Ser | Gly | Leu | Ile | | |
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| aca aac aga ctg aat ggg agc aat act cag tgt cag gtg gtg agg tgc Thr Asn Arg Leu Asn Gly Ser Asn Thr Gln Cys Gln Val Val Arg Cys 1035 1040 1045 1050 | | | 3171 |
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| gag aag ttg gag caa tgaatgtaga ataagggtct agaaagtcct ccctggcagc Glu Lys Leu Glu Gln 1165 | | | 3562 |
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Phe Pro Gly Pro Pro Glu Ala Glu Phe Gly Tyr Ser Val Leu Gln His
35      40      45
Val Gly Gly Gly Gln Arg Trp Met Leu Val Gly Ala Pro Trp Asp Gly
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Pro Ser Gly Asp Arg Arg Gly Asp Val Tyr Arg Cys Pro Val Gly Gly
65      70      75      80
Ala His Asn Ala Pro Cys Ala Lys Gly His Leu Gly Asp Tyr Gln Leu
85      90      95
Gly Asn Ser Ser His Pro Ala Val Asn Met His Leu Gly Met Ser Leu
100     105     110
Leu Glu Thr Asp Gly Asp Gly Gly Phe Met Ala Cys Ala Pro Leu Trp
115     120     125
Ser Arg Ala Cys Gly Ser Ser Val Phe Ser Ser Gly Ile Cys Ala Arg
130     135     140
Val Asp Ala Ser Phe Gln Pro Gln Gly Ser Leu Ala Pro Thr Ala Gln
145     150     155     160
Arg Cys Pro Thr Tyr Met Asp Val Val Ile Val Leu Asp Gly Ser Asn
165     170     175
Ser Ile Tyr Pro Trp Ser Glu Val Gln Thr Phe Leu Arg Arg Leu Val
180     185     190
Gly Lys Leu Phe Ile Asp Pro Glu Gln Ile Gln Val Gly Leu Val Gln
195     200     205
Tyr Gly Glu Ser Pro Val His Glu Trp Ser Leu Gly Asp Phe Arg Thr
210     215     220
Lys Glu Glu Val Val Arg Ala Ala Lys Asn Leu Ser Arg Arg Glu Gly
225     230     235     240
Arg Glu Thr Lys Thr Ala Gln Ala Ile Met Val Ala Cys Thr Glu Gly
245     250     255
Phe Ser Gln Ser His Gly Gly Arg Pro Glu Ala Ala Arg Leu Leu Val
260     265     270
Val Val Thr Asp Gly Glu Ser His Asp Gly Glu Glu Leu Pro Ala Ala
275     280     285
Leu Lys Ala Cys Glu Ala Gly Arg Val Thr Arg Tyr Gly Ile Ala Val
290     295     300
Leu Gly His Tyr Leu Arg Arg Gln Arg Asp Pro Ser Ser Phe Leu Arg
305     310     315     320
Glu Ile Arg Thr Ile Ala Ser Asp Pro Asp Glu Arg Phe Phe Phe Asn
325     330     335
Val Thr Asp Glu Ala Ala Leu Thr Asp Ile Val Asp Ala Leu Gly Asp
340     345     350
Arg Ile Phe Gly Leu Glu Gly Ser His Ala Glu Asn Glu Ser Ser Phe
355     360     365
Gly Leu Glu Met Ser Gln Ile Gly Phe Ser Thr His Arg Leu Lys Asp
370     375     380
Gly Ile Leu Phe Gly Met Val Gly Ala Tyr Asp Trp Gly Gly Ser Val
385     390     395     400
Leu Trp Leu Glu Gly Gly His Arg Leu Phe Pro Pro Arg Met Ala Leu
405     410     415
Glu Asp Glu Phe Pro Pro Ala Leu Gln Asn His Ala Ala Tyr Leu Gly
420     425     430
Tyr Ser Val Ser Ser Met Leu Leu Arg Gly Gly Arg Arg Leu Phe Leu
435     440     445

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Leu Lys Lys Asp Gly Ala Val Arg Val Ala Gln Ser Leu Gln Gly Glu
465          470          475          480
Gln Ile Gly Ser Tyr Phe Gly Ser Glu Leu Cys Pro Leu Asp Thr Asp
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Arg Asp Gly Thr Thr Asp Val Leu Leu Val Ala Ala Pro Met Phe Leu
          500          505          510
Gly Pro Gln Asn Lys Glu Thr Gly Arg Val Tyr Val Tyr Leu Val Gly
          515          520          525
Gln Gln Ser Leu Leu Thr Leu Gln Gly Thr Leu Gln Pro Glu Pro Pro
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Gln Asp Ala Arg Phe Gly Phe Ala Met Gly Ala Leu Pro Asp Leu Asn
545          550          555          560
Gln Asp Gly Phe Ala Asp Val Ala Val Gly Ala Pro Leu Glu Asp Gly
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His Gln Gly Ala Leu Tyr Leu Tyr His Gly Thr Gln Ser Gly Val Arg
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Pro His Pro Ala Gln Arg Ile Ala Ala Ala Ser Met Pro His Ala Leu
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Ser Tyr Phe Gly Arg Ser Val Asp Gly Arg Leu Asp Leu Asp Gly Asp
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Asp Leu Val Asp Val Ala Val Gly Ala Gln Gly Ala Ala Ile Leu Leu
625          630          635          640
Ser Ser Arg Pro Ile Val His Leu Thr Pro Ser Leu Glu Val Thr Pro
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Gln Ala Ile Ser Val Val Gln Arg Asp Cys Arg Arg Arg Gly Gln Glu
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Ala Val Cys Leu Thr Ala Ala Leu Cys Phe Gln Val Thr Ser Arg Thr
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Pro Gly Arg Trp Asp His Gln Phe Tyr Met Arg Phe Thr Ala Ser Leu
          690          695          700
Asp Glu Trp Thr Ala Gly Ala Arg Ala Ala Phe Asp Gly Ser Gly Gln
705          710          715          720
Arg Leu Ser Pro Arg Arg Leu Arg Leu Ser Val Gly Asn Val Thr Cys
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Glu Gln Leu His Phe His Val Leu Asp Thr Ser Asp Tyr Leu Arg Pro
          740          745          750
Val Ala Leu Thr Val Thr Phe Ala Leu Asp Asn Thr Thr Lys Pro Gly
          755          760          765
Pro Val Leu Asn Glu Gly Ser Pro Thr Ser Ile Gln Lys Leu Val Pro
          770          775          780
Phe Ser Lys Asp Cys Gly Pro Asp Asn Glu Cys Val Thr Asp Leu Val
785          790          795          800
Leu Gln Val Asn Met Asp Ile Arg Gly Ser Arg Lys Ala Pro Phe Val
          805          810          815
Val Arg Gly Gly Arg Arg Lys Val Leu Val Ser Thr Thr Leu Glu Asn
          820          825          830
Arg Lys Glu Asn Ala Tyr Asn Thr Ser Leu Ser Ile Ile Phe Ser Arg
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Asn Leu His Leu Ala Ser Leu Thr Pro Gln Arg Glu Ser Pro Ile Lys
          850          855          860
Val Glu Cys Ala Ala Pro Ser Ala His Ala Arg Leu Cys Ser Val Gly
865          870          875          880
His Pro Val Phe Gln Thr Gly Ala Lys Val Thr Phe Leu Leu Glu Phe
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Glu Phe Ser Cys Ser Ser Leu Leu Ser Gln Val Phe Gly Lys Leu Thr

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| Ala Gln Thr | Ser Ala Tyr Ile Gln Tyr Glu Pro His Leu Leu Phe Ser | | | | |
| | 930 | | 935 | | 940 |
| Ser Glu Ser | Thr Leu His Arg Tyr Glu Val His Pro Tyr Gly Thr Leu | | | | |
| 945 | | 950 | | 955 | 960 |
| Pro Val Gly | Pro Gly Pro Glu Phe Lys Thr Thr Leu Arg Val Gln Asn | | | | |
| | 965 | | 970 | | 975 |
| Leu Gly Cys | Tyr Val Val Ser Gly Leu Ile Ile Ser Ala Leu Leu Pro | | | | |
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| Ala Val Ala | His Gly Gly Asn Tyr Phe Leu Ser Leu Ser Gln Val Ile | | | | |
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| Thr Asn Asn | Ala Ser Cys Ile Val Gln Asn Leu Thr Glu Pro Pro Gly | | | | |
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| Pro Pro Val | His Pro Glu Glu Leu Gln His Thr Asn Arg Leu Asn Gly | | | | |
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| Ser Asn Thr | Gln Cys Gln Val Val Arg Cys His Leu Gly Gln Leu Ala | | | | |
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| Lys Gly Thr | Glu Val Ser Val Gly Leu Leu Arg Leu Val His Asn Glu | | | | |
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| Phe Phe Arg | Arg Ala Lys Phe Lys Ser Leu Thr Val Val Ser Thr Phe | | | | |
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| Glu Leu Gly | Thr Glu Glu Gly Ser Val Leu Gln Leu Thr Glu Ala Ser | | | | |
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| Arg Trp Ser | Glu Ser Leu Leu Glu Val Val Gln Thr Arg Pro Ile Leu | | | | |
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| Ile Ser Leu | Trp Ile Leu Ile Gly Ser Val Leu Gly Gly Leu Leu Leu | | | | |
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| Leu Ala Leu | Leu Val Phe Cys Leu Trp Lys Leu Gly Phe Phe Ala His | | | | |
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| Leu Pro Leu Val Phe Leu Thr Gly Leu Cys Ser Pro Phe Asn Leu Asp | |
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| Glu His His Pro Arg Leu Phe Pro Gly Pro Pro Glu Ala Glu Phe Gly | |
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| Tyr Ser Val Leu Gln His Val Gly Gly Gly Gln Arg Trp Met Leu Val | |
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| ggc gcc ccc tgg gat ggg cct tca ggc gac cgg agg ggg gac gtt tat | 243 |
| Gly Ala Pro Trp Asp Gly Pro Ser Gly Asp Arg Arg Gly Asp Val Tyr | |
| 60 65 70 | |
| cgc tgc cct gta ggg ggg gcc cac aat gcc cca tgt gcc aag ggc cac | 291 |
| Arg Cys Pro Val Gly Gly Ala His Asn Ala Pro Cys Ala Lys Gly His | |
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| tta ggt gac tac caa ctg gga aat tca tct cat cct gct gtg aat atg | 339 |
| Leu Gly Asp Tyr Gln Leu Gly Asn Ser Ser His Pro Ala Val Asn Met | |
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| His Leu Gly Met Ser Leu Leu Glu Thr Asp Gly Asp Gly Gly Phe Met | |
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| Ser Gly Ile Cys Ala Arg Val Asp Ala Ser Phe Gln Pro Gln Gly Ser | |
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| Val Leu Asp Gly Ser Asn Ser Ile Tyr Pro Trp Ser Glu Val Gln Thr | |
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| Phe Leu Arg Arg Leu Val Gly Lys Leu Phe Ile Asp Pro Glu Gln Ile | |
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| Leu Gly Asp Phe Arg Thr Lys Glu Glu Val Val Arg Ala Ala Lys Asn | |
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| Val Ala Cys Thr Glu Gly Phe Ser Gln Ser His Gly Gly Arg Pro Glu | |
| 255 260 265 | |
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| Ala | Ala | Arg | Leu | Leu | Val | Val | Val | Thr | Asp | Gly | Glu | Ser | His | Asp | Gly | | |
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| Glu | Glu | Leu | Pro | Ala | Ala | Leu | Lys | Ala | Cys | Glu | Ala | Gly | Arg | Val | Thr | | |
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| Arg | Tyr | Gly | Ile | Ala | Val | Leu | Gly | His | Tyr | Leu | Arg | Arg | Gln | Arg | Asp | | |
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| Pro | Ser | Ser | Phe | Leu | Arg | Glu | Ile | Arg | Thr | Ile | Ala | Ser | Asp | Pro | Asp | | |
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| gag | cga | ttc | ttc | ttc | aat | gtc | aca | gat | gag | gct | gct | ctg | act | gac | att | 1059 | |
| Glu | Arg | Phe | Phe | Phe | Asn | Val | Thr | Asp | Glu | Ala | Ala | Leu | Thr | Asp | Ile | | |
| | | | | 335 | | | | | 340 | | | | | 345 | | | |
| gtg | gat | gca | cta | gga | gat | cgg | att | ttt | ggc | ctt | gaa | ggg | tcc | cat | gca | 1107 | |
| Val | Asp | Ala | Leu | Gly | Asp | Arg | Ile | Phe | Gly | Leu | Glu | Gly | Ser | His | Ala | | |
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| gaa | aac | gaa | agc | tcc | ttt | ggg | ctg | gaa | atg | tct | cag | att | ggg | ttc | tcc | 1155 | |
| Glu | Asn | Glu | Ser | Ser | Phe | Gly | Leu | Glu | Met | Ser | Gln | Ile | Gly | Phe | Ser | | |
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| act | cat | cgg | cta | aag | gat | ggg | att | ctt | ttt | ggg | atg | gtg | ggg | gcc | tat | 1203 | |
| Thr | His | Arg | Leu | Lys | Asp | Gly | Ile | Leu | Phe | Gly | Met | Val | Gly | Ala | Tyr | | |
| | 380 | | | | | 385 | | | | | 390 | | | | | | |
| gac | tgg | gga | ggc | tct | gtg | cta | tgg | ctt | gaa | gga | ggc | cac | cgc | ctt | ttc | 1251 | |
| Asp | Trp | Gly | Gly | Ser | Val | Leu | Trp | Leu | Glu | Gly | Gly | His | Arg | Leu | Phe | | |
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| Pro | Pro | Arg | Met | Ala | Leu | Glu | Asp | Glu | Phe | Pro | Pro | Ala | Leu | Gln | Asn | | |
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| cat | gca | gcc | tac | ctg | ggg | tac | tct | gtt | tct | tcc | atg | ctt | ttg | cgg | ggg | 1347 | |
| His | Ala | Ala | Tyr | Leu | Gly | Tyr | Ser | Val | Ser | Ser | Met | Leu | Leu | Arg | Gly | | |
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| gga | cgc | cgc | ctg | ttt | ctc | tct | ggg | gct | cct | cga | ttt | aga | cat | cga | gga | 1395 | |
| Gly | Arg | Arg | Leu | Phe | Leu | Ser | Gly | Ala | Pro | Arg | Phe | Arg | His | Arg | Gly | | |
| | | 445 | | | | | 450 | | | | | 455 | | | | | |
| aaa | gtc | atc | gcc | ttc | cag | ctt | aag | aaa | gat | ggg | gct | gtg | agg | gtt | gcc | 1443 | |
| Lys | Val | Ile | Ala | Phe | Gln | Leu | Lys | Lys | Asp | Gly | Ala | Val | Arg | Val | Ala | | |
| | 460 | | | | | 465 | | | | | 470 | | | | | | |
| cag | agc | ctc | cag | ggg | gag | cag | att | ggg | tca | tac | ttt | ggc | agt | gag | ctc | 1491 | |
| Gln | Ser | Leu | Gln | Gly | Glu | Gln | Ile | Gly | Ser | Tyr | Phe | Gly | Ser | Glu | Leu | | |
| 475 | | | | | 480 | | | | 485 | | | | | | 490 | | |
| tgc | cca | ttg | gat | aca | gat | agg | gat | gga | aca | act | gat | gtc | tta | ctt | gtg | 1539 | |
| Cys | Pro | Leu | Asp | Thr | Asp | Arg | Asp | Gly | Thr | Thr | Asp | Val | Leu | Leu | Val | | |

| 495 | | | | | | | | | | 500 | | | | | 505 | | | | | |
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| Leu | Gln | Pro | Glu | Pro | Pro | Gln | Asp | Ala | Arg | Phe | Gly | Phe | Ala | Met | Gly | | | | | |
| | | | 540 | | | 545 | | | | | 550 | | | | | | | | | |
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| Ala | Leu | Pro | Asp | Leu | Asn | Gln | Asp | Gly | Phe | Ala | Asp | Val | Ala | Val | Gly | | | | | |
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| gcg | cct | ctg | gaa | gat | ggg | cac | cag | gga | gca | ctg | tac | ctg | tac | cat | gga | 1779 | | | | |
| Ala | Pro | Leu | Glu | Asp | Gly | His | Gln | Gly | Ala | Leu | Tyr | Leu | Tyr | His | Gly | | | | | |
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| Thr | Gln | Ser | Gly | Val | Arg | Pro | His | Pro | Ala | Gln | Arg | Ile | Ala | Ala | Ala | | | | | |
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| Ser | Met | Pro | His | Ala | Leu | Ser | Tyr | Phe | Gly | Arg | Ser | Val | Asp | Gly | Arg | | | | | |
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| cta | gat | ctg | gat | gga | gat | gat | ctg | gtc | gat | gtg | gct | gtg | ggc | gca | cag | 1923 | | | | |
| Leu | Asp | Leu | Asp | Gly | Asp | Asp | Leu | Val | Asp | Val | Ala | Val | Gly | Ala | Gln | | | | | |
| | | | 620 | | | 625 | | | | | 630 | | | | | | | | | |
| ggg | gca | gcc | atc | ctg | ctc | agc | tcc | cgg | ccc | att | gtc | cat | ctg | acc | cca | 1971 | | | | |
| Gly | Ala | Ala | Ile | Leu | Leu | Ser | Ser | Arg | Pro | Ile | Val | His | Leu | Thr | Pro | | | | | |
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| Ser | Leu | Glu | Val | Thr | Pro | Gln | Ala | Ile | Ser | Val | Val | Gln | Arg | Asp | Cys | | | | | |
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| Gln | Val | Thr | Ser | Arg | Thr | Pro | Gly | Arg | Trp | Asp | His | Gln | Phe | Tyr | Met | | | | | |
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| tca gat tac ctc cgg cca gtg gcc ttg act gtg acc ttt gcc ttg gac | 2307 |
| Ser Asp Tyr Leu Arg Pro Val Ala Leu Thr Val Thr Phe Ala Leu Asp | |
| 750 755 760 | |
| aat act aca aag cca ggg cct gtg ctg aat gag ggc tca ccc acc tct | 2355 |
| Asn Thr Thr Lys Pro Gly Pro Val Leu Asn Glu Gly Ser Pro Thr Ser | |
| 765 770 775 | |
| ata caa aag ctg gtc ccc ttc tca aag gat tgt ggc cct gac aat gaa | 2403 |
| Ile Gln Lys Leu Val Pro Phe Ser Lys Asp Cys Gly Pro Asp Asn Glu | |
| 780 785 790 | |
| tgt gtc aca gac ctg gtg ctt caa gtg aat atg gac atc aga ggc tcc | 2451 |
| Cys Val Thr Asp Leu Val Leu Gln Val Asn Met Asp Ile Arg Gly Ser | |
| 795 800 805 810 | |
| agg aag gcc cca ttt gtg gtt cga ggt ggc cgg cgg aaa gtg ctg gta | 2499 |
| Arg Lys Ala Pro Phe Val Val Arg Gly Gly Arg Arg Lys Val Leu Val | |
| 815 820 825 | |
| tct aca act ctg gag aac aga aag gaa aat gct tac aat acg agc ctg | 2547 |
| Ser Thr Thr Leu Glu Asn Arg Lys Glu Asn Ala Tyr Asn Thr Ser Leu | |
| 830 835 840 | |
| agt atc atc ttc tct aga aac ctc cac ctg gcc agt ctc act cct cag | 2595 |
| Ser Ile Ile Phe Ser Arg Asn Leu His Leu Ala Ser Leu Thr Pro Gln | |
| 845 850 855 | |
| aga gag agc cca ata aag gtg gaa tgt gcc gcc cct tct gct cat gcc | 2643 |
| Arg Glu Ser Pro Ile Lys Val Glu Cys Ala Ala Pro Ser Ala His Ala | |
| 860 865 870 | |
| cgg ctc tgc agt gtg ggg cat cct gtc ttc cag act gga gcc aag gtg | 2691 |
| Arg Leu Cys Ser Val Gly His Pro Val Phe Gln Thr Gly Ala Lys Val | |
| 875 880 885 890 | |
| acc ttt ctg cta gag ttt gag ttt agc tgc tcc tct ctc ctg agc cag | 2739 |
| Thr Phe Leu Leu Glu Phe Glu Phe Ser Cys Ser Ser Leu Leu Ser Gln | |
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| Val Phe Gly Lys Leu Thr Ala Ser Ser Asp Ser Leu Glu Arg Asn Gly | |
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| acc ctt caa gaa aac aca gcc cag acc tca gcc tac atc caa tat gag | 2835 |
| Thr Leu Gln Glu Asn Thr Ala Gln Thr Ser Ala Tyr Ile Gln Tyr Glu | |
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| Pro His Leu Leu Phe Ser Ser Glu Ser Thr Leu His Arg Tyr Glu Val | |
| 940 945 950 | |

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| Val | Gly | Gly | Gly | Gln | Arg | Trp | Met | Leu | Val | Gly | Ala | Pro | Trp | Asp | Gly |
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| Pro | Ser | Gly | Asp | Arg | Arg | Gly | Asp | Val | Tyr | Arg | Cys | Pro | Val | Gly | Gly |
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| Ala | His | Asn | Ala | Pro | Cys | Ala | Lys | Gly | His | Leu | Gly | Asp | Tyr | Gln | Leu |
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| Gly | Asn | Ser | Ser | His | Pro | Ala | Val | Asn | Met | His | Leu | Gly | Met | Ser | Leu |
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| Leu | Glu | Thr | Asp | Gly | Asp | Gly | Gly | Phe | Met | Ala | Cys | Ala | Pro | Leu | Trp |
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| Val | Asp | Ala | Ser | Phe | Gln | Pro | Gln | Gly | Ser | Leu | Ala | Pro | Thr | Ala | Gln |
| 145 | | | | | 150 | | | | | 155 | | | | 160 | |
| Arg | Cys | Pro | Thr | Tyr | Met | Asp | Val | Val | Ile | Val | Leu | Asp | Gly | Ser | Asn |
| | | | 165 | | | | | | 170 | | | | | 175 | |
| Ser | Ile | Tyr | Pro | Trp | Ser | Glu | Val | Gln | Thr | Phe | Leu | Arg | Arg | Leu | Val |
| | | 180 | | | | | | 185 | | | | | 190 | | |
| Gly | Lys | Leu | Phe | Ile | Asp | Pro | Glu | Gln | Ile | Gln | Val | Gly | Leu | Val | Gln |
| | 195 | | | | | | 200 | | | | | 205 | | | |
| Tyr | Gly | Glu | Ser | Pro | Val | His | Glu | Trp | Ser | Leu | Gly | Asp | Phe | Arg | Thr |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Lys | Glu | Glu | Val | Val | Arg | Ala | Ala | Lys | Asn | Leu | Ser | Arg | Arg | Glu | Gly |
| 225 | | | | | 230 | | | | | 235 | | | | 240 | |
| Arg | Glu | Thr | Lys | Thr | Ala | Gln | Ala | Ile | Met | Val | Ala | Cys | Thr | Glu | Gly |
| | | | 245 | | | | | | 250 | | | | | 255 | |
| Phe | Ser | Gln | Ser | His | Gly | Gly | Arg | Pro | Glu | Ala | Ala | Arg | Leu | Leu | Val |
| | | 260 | | | | | | 265 | | | | | 270 | | |
| Val | Val | Thr | Asp | Gly | Glu | Ser | His | Asp | Gly | Glu | Glu | Leu | Pro | Ala | Ala |
| | | 275 | | | | | 280 | | | | | 285 | | | |
| Leu | Lys | Ala | Cys | Glu | Ala | Gly | Arg | Val | Thr | Arg | Tyr | Gly | Ile | Ala | Val |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Leu | Gly | His | Tyr | Leu | Arg | Arg | Gln | Arg | Asp | Pro | Ser | Ser | Phe | Leu | Arg |
| 305 | | | | | 310 | | | | | 315 | | | | 320 | |
| Glu | Ile | Arg | Thr | Ile | Ala | Ser | Asp | Pro | Asp | Glu | Arg | Phe | Phe | Phe | Asn |
| | | | 325 | | | | | | 330 | | | | | 335 | |
| Val | Thr | Asp | Glu | Ala | Ala | Leu | Thr | Asp | Ile | Val | Asp | Ala | Leu | Gly | Asp |
| | | 340 | | | | | | 345 | | | | | 350 | | |
| Arg | Ile | Phe | Gly | Leu | Glu | Gly | Ser | His | Ala | Glu | Asn | Glu | Ser | Ser | Phe |
| | | 355 | | | | | 360 | | | | | 365 | | | |
| Gly | Leu | Glu | Met | Ser | Gln | Ile | Gly | Phe | Ser | Thr | His | Arg | Leu | Lys | Asp |
| | 370 | | | | | 375 | | | | | 380 | | | | |
| Gly | Ile | Leu | Phe | Gly | Met | Val | Gly | Ala | Tyr | Asp | Trp | Gly | Gly | Ser | Val |
| 385 | | | | | 390 | | | | | 395 | | | | 400 | |
| Leu | Trp | Leu | Glu | Gly | Gly | His | Arg | Leu | Phe | Pro | Pro | Arg | Met | Ala | Leu |
| | | | 405 | | | | | | 410 | | | | | 415 | |
| Glu | Asp | Glu | Phe | Pro | Pro | Ala | Leu | Gln | Asn | His | Ala | Ala | Tyr | Leu | Gly |

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His Pro Val Phe Gln Thr Gly Ala Lys Val Thr Phe Leu Leu Glu Phe
 885 890 895
 Glu Phe Ser Cys Ser Ser Leu Leu Ser Gln Val Phe Gly Lys Leu Thr
 900 905 910
 Ala Ser Ser Asp Ser Leu Glu Arg Asn Gly Thr Leu Gln Glu Asn Thr
 915 920 925
 Ala Gln Thr Ser Ala Tyr Ile Gln Tyr Glu Pro His Leu Leu Phe Ser
 930 935 940
 Ser Glu Ser Thr Leu His Arg Tyr Glu Val His Pro Tyr Gly Thr Leu
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 Pro Val Gly Pro Gly Pro Glu Phe Lys Thr Thr Leu Arg Thr Asn Asn
 965 970 975
 Ala Ser Cys Ile Val Gln Asn Leu Thr Glu Pro Pro Gly Pro Pro Val
 980 985 990
 His Pro Glu Glu Leu Gln His Thr Asn Arg Leu Asn Gly Ser Asn Thr
 995 1000 1005
 Gln Cys Gln Val Val Arg Cys His Leu Gly Gln Leu Ala Lys Gly Thr
 1010 1015 1020
 Glu Val Ser Val Gly Leu Leu Arg Leu Val His Asn Glu Phe Phe Arg
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 Arg Ala Lys Phe Lys Ser Leu Thr Val Val Ser Thr Phe Glu Leu Gly
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 Glu Ser Leu Leu Glu Val Val Gln Thr Arg Pro Ile Leu Ile Ser Leu
 1075 1080 1085
 Trp Ile Leu Ile Gly Ser Val Leu Gly Gly Leu Leu Leu Ala Leu
 1090 1095 1100
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 Ile Ser Ala Leu Leu Pro Ala Val Ala His Gly Gly Asn Tyr Phe Leu
 20 25 30
 agc ttg tcc cag gtt atc agc ggc ctg gtg ccg cgc gga tcc ccc 142
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143

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